TORK®
valve & automation
high quality

SWITCH BOX
USER MANUAL

SMS®

SMS SANAYİ MALZEMELERİ ÜRETİM VE SATIŞI A.Ş.

Read the instructions before use!

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1 GENERAL DESCRIPTION OF THE EQUIPMENT

a Intended Use of the Equipment

A switch box is a device used for on the pneumatic rotary actuators for showing the position of the valve visually and giving output signal according to the position of the valve. An ex proof switch box used on the potentially explosive and hazardous areas.

b Product Coding System

LS XX.2XX

2M	2 Mechanical Switch
2PN	2 Proximity Switch NPN Type
2PP	2 Proximity Switch PNP Type
2PX	2 Proximity Switch NAMUR Type

10	Standard Switch Box
20	Ex proof Switch Box
40	Economic Plastic Switch Box
80	Magnetic Limit Switch Box

• On request Standard Switch Box and Ex Proof Switch Box can be fitted mechanical switch or proximity switch.

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c Exploded Drawings and Part Lists

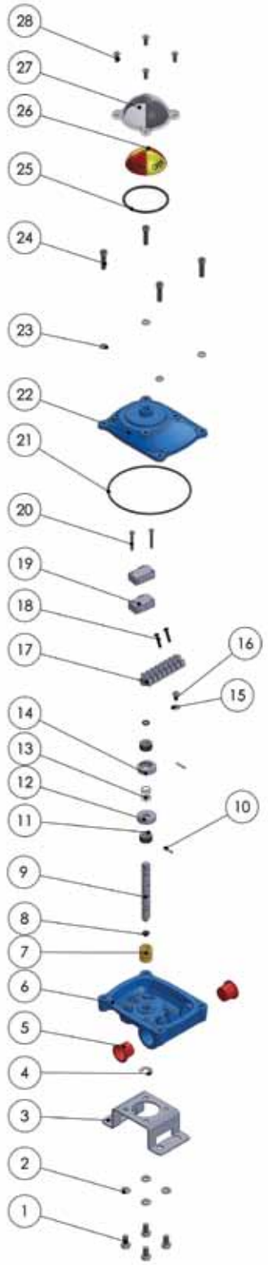

Figure 1: Exploded Picture of Standard Switch Box

NO	PART NAME	UNIT	QUANTITY
28	BOLT	Piece	4
27	INDICATOR COVER	Piece	1
26	INDICATOR	Piece	1
25	O-RING	Piece	1
24	BOLT	Piece	4
23	WASHER	Piece	4
22	COVER-PAINTED	Piece	1
21	O-RING	Piece	1
20	BOLT	Piece	2
19	SWITCH MIKRO	Piece	2
18	BOLT	Piece	2
17	SWITCH MIKRO	Piece	1
16	BOLT	Piece	1
15	WASHER	Piece	1
14	CAM RED	Piece	1
13	SPRING WASHER	Piece	1
12	CAM YELLOW	Piece	1
11	CAM LOCK	Piece	2
10	SPLIT PIN	Piece	2
9	SHAFT	Piece	1
8	O-RING	Piece	2
7	BUSHING	Piece	1
6	BODY-PAINTED	Piece	1
5	STOP	Piece	2
4	SEGMENT	Piece	1
3	BRACET	Piece	1
2	SPRING WASHER	Piece	4
1	BOLT	Piece	4

Table 1: List of Part for Standard Switch Box

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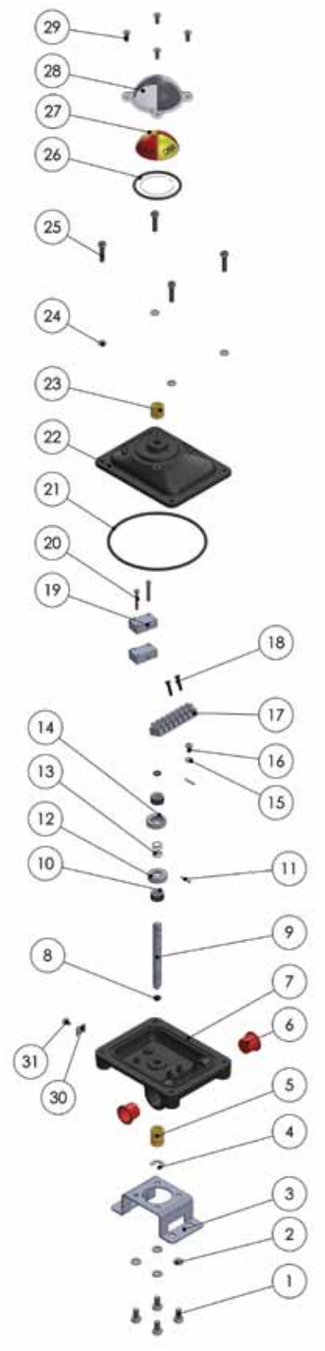

Figure 2: Exploded Picture of Ex Proof Switch Box

31	BOLT	Piece	1
30	PLATE	Piece	1
29	BOLT	Piece	4
28	INDICATOR COVER	Piece	4
27	INDICATOR	Piece	1
26	O-RING	Piece	1
25	BOLT	Piece	1
24	WASHER	Piece	4
23	BUSHING	Piece	4
22	COVER-PAINTED	Piece	1
21	O-RING	Piece	1
20	BOLT	Piece	2
19	SWITCH MIKRO	Piece	2
18	BOLT	Piece	2
17	SWITCH MIKRO	Piece	1
16	BOLT	Piece	1
15	WASHER	Piece	1
14	CAM RED	Piece	1
13	SPRING WASHER	Piece	1
12	CAM YELLOW	Piece	1
11	CAM LOCK	Piece	2
10	SPLIT PIN	Piece	2
9	SHAFT	Piece	1
8	O-RING	Piece	2
7	BODY-PAINTED	Piece	1
6	STOP	Piece	1
5	BUSHING	Piece	2
4	SEGMENT	Piece	1
3	BRACET	Piece	1
2	SPRING WASHER	Piece	4
1	BOLT	Piece	4
NO	**PART NAME**	**UNIT**	**QUANTITY**

Table 2: List of Part for Ex Proof Switch Box

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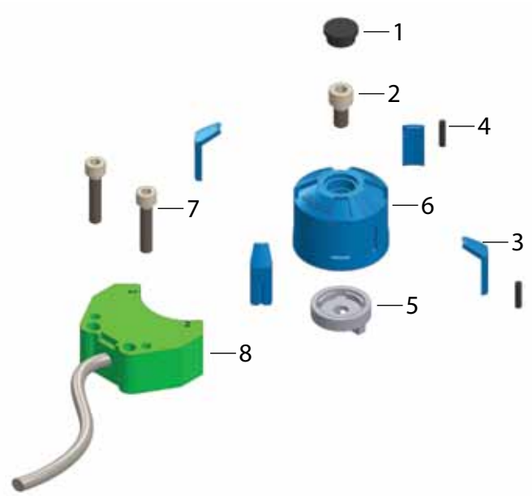

Figure 3: Exploded Picture of Magnetic Limit Switch Box

8	PROXIMITY SENSOR	Piece	1
7	BOLT	Piece	2
6	LITTLE DIRECTION INDICATOR BODY	Piece	1
5	BODY ADAPTER	Piece	1
4	STAINLESS STEEL PIN	Piece	2
3	BLUE PART OF DIRECTION INDICATOR	Piece	4
2	BOLT	Piece	1
1	PLUG BOLT	Piece	1
NO	**PART NAME**	**UNIT**	**QUANTITY**

Table 3: List of Part for Magnetic Limit Switch Box

d Technical Specifications

- On-Off valve position indicator
- Compact small body
- Ex Proof, Ex d IIC T6, Ex ia IIC T6(Optional)
- IP67
- Body is composed of Aluminium die cast and powder coating
- Bolts on visual position indicator
- Dual cable entries, NPT ½", M20 (Optional)
- Easy mounting with NAMUR standard, stainless steel shaft and bracket.
- Mechanical switches are used. Proximity switches can be used on request.
- Operating temperature range -20 °C to +80 °C

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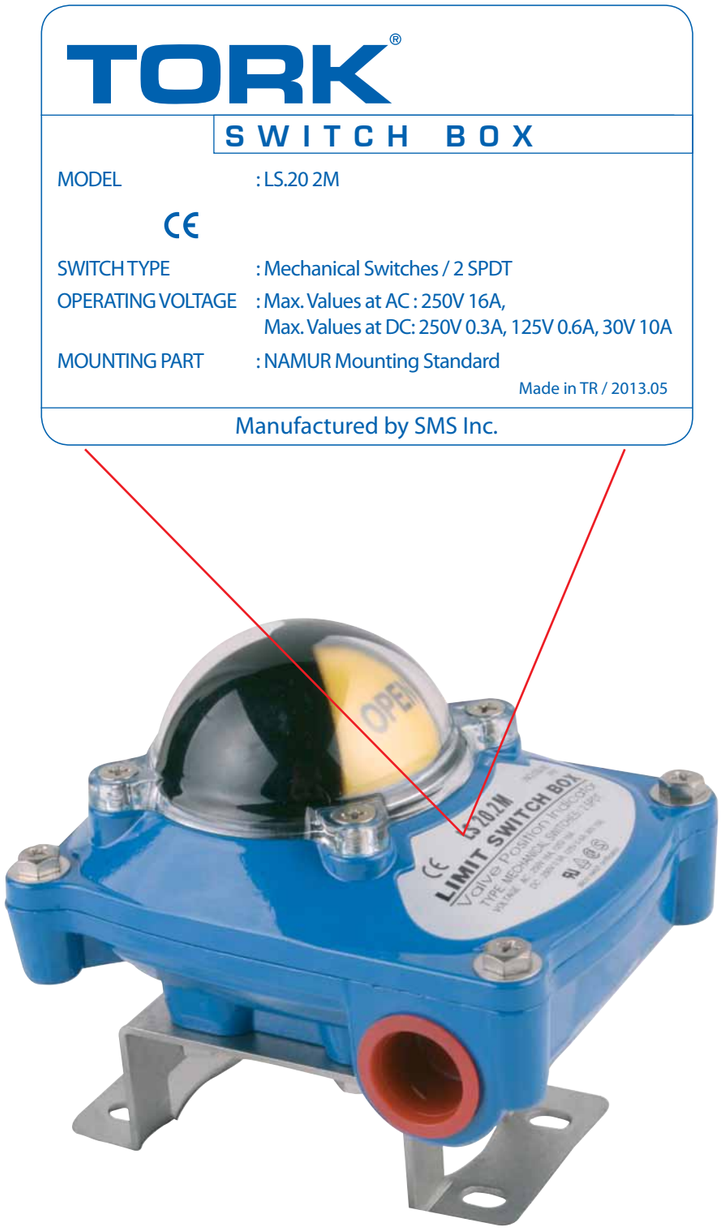
e Warning Signs and Labeling


TORK
SWITCH BOX
MODEL : LS.20 2M
CE
SWITCH TYPE : Mechanical Switches / 2 SPDT
OPERATING VOLTAGE : Max. Values at AC : 250V 16A,
Max. Values at DC: 250V 0.3A, 125V 0.6A, 30V 10A
MOUNTING PART : NAMUR Mounting Standard
Made in TR / 2013.05
Manufactured by SMS Inc.
OPEN
LS 20.2M
LIMIT SWITCH BOX
VALVE POSITION INDICATOR

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2 OPERATION OF THE EQUIPMENT

a. Operation of Switch Box In Open Position

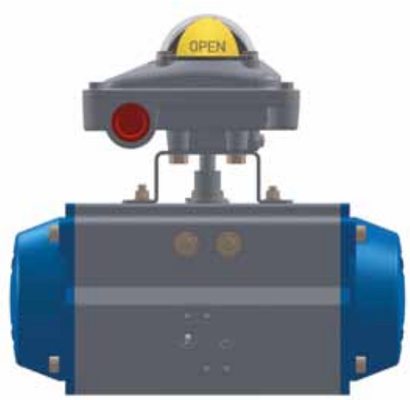

Figure 4: Standard and Ex Proof Switch Box

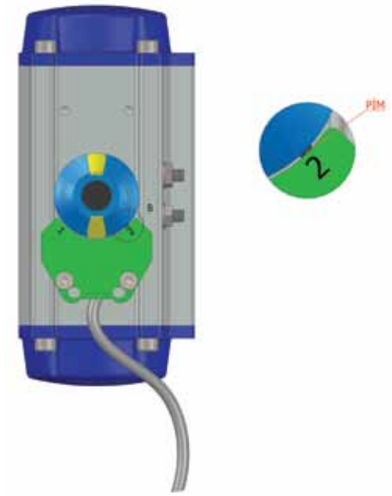

Figure 5: Magnetic Limit Switch Box

b. Operation of Switch Box In Close Position

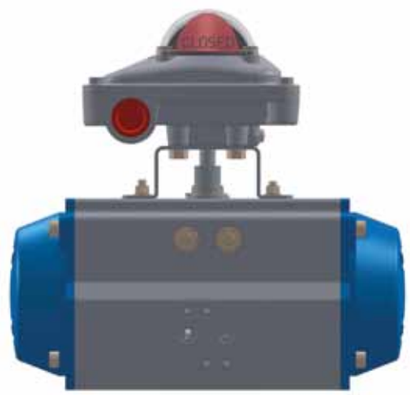

Figure 6: Standard and Ex Proof Switch Box

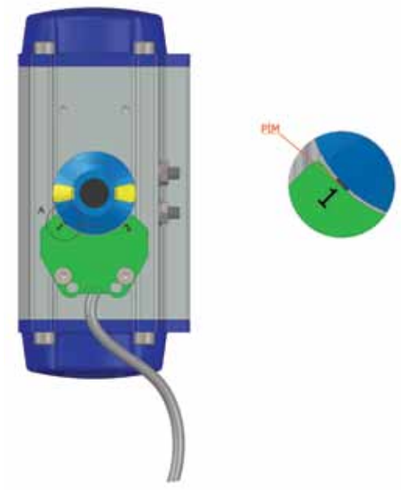

Figure 7: Magnetic Limit Switch Box

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3 INSTALLATION OF THE EQUIPMENT

a Mounting the Switch Box to Actuator Assembly

I. Mount the switch box to the actuator with set screw and nut by suitable tools.

II. Before connect the actuator and switch box, check the position of the switch box and the actuator pinion

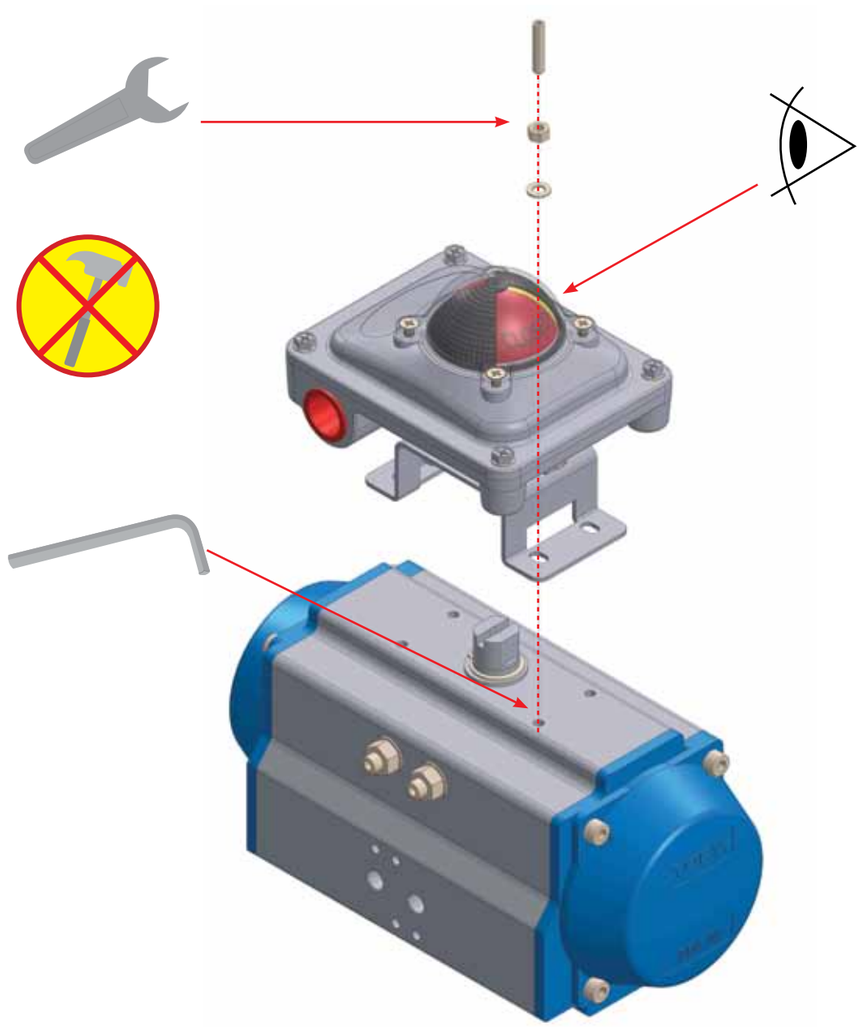

Figure 8: Standard and Exproof Switch Box

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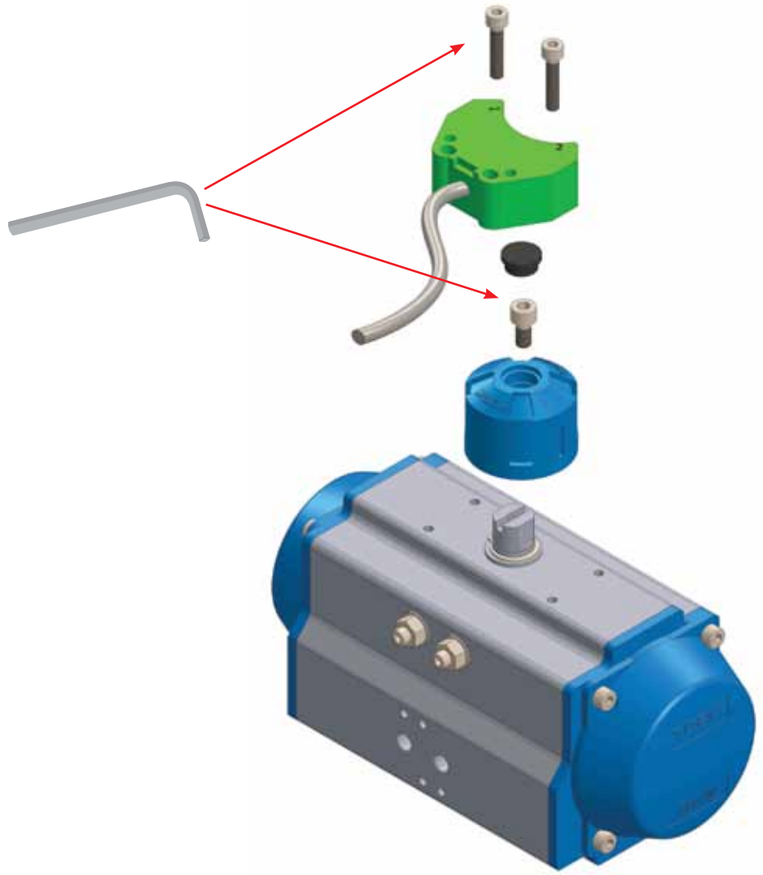

Figure 9: Magnetic Limit Switch Box

Pneumatic connections should be disconnected before any intervention.

For protection against potentially explosive atmospheres use certified ex proof switch box and "RX" code ex proof pneumatic actuators.

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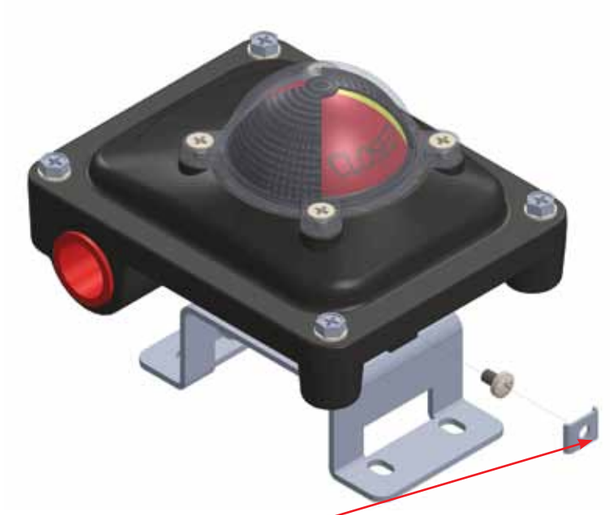
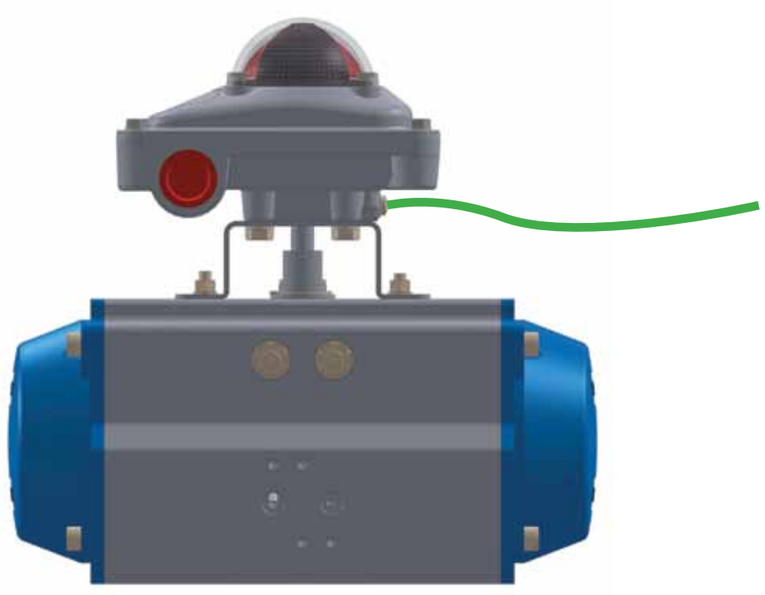
b Ground Connection



Mount the main supply ground cable socket (color code is yellow green) to the ground connector on the switch box like at the picture below.



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4 WARRANTY PERIOD FOR THE PRODUCT

The warranty period for the TORK brand switch boxes is two years. The maximum repair period is 20 days. The warranty does not include products if the switch boxes are used out of scope of the terms of use specified when ordered from our company or in case of breaks resulted from the user's fault when the user try to conduct the care and repair of the product.

To benefit from the warranty, please apply to the manufacturer company with the warranty certificate approved by the company within the warranty period. In the case when you send the switch box via courier, please remember to add a description your complaint, the photocopy of your warranty certificate, your address and telephone number.

PRODUCING COMPANY

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WARRANTY CONDITIONS

1. If there is a fault caused by the production, the manufacturer will repair or replace the defective product in its sole discretion.
2. The warranty period is two (2) years and starts from the date of delivery of the product to consumers.
3. All products, including all sub-parts, covered by our warranty.
4. The maximum repair time is one (1) month and starts from the products' arrival date to SMS factory.
5. Within the warranty period, both in material and workmanship, as well as in case of manufacturing defects, products will be repaired without any charge under any name (labor costs, or the cost of replaced parts).
6. During the warranty period, provided that the products will be exchanged free of charge if the fault is sourced by production.
7. Damages caused by the using of the product contrary to the points listed in the operating instructions are excluded from warranty coverage.
8. If there are complaints about the product please contact customer relations manager firstly.
9. For return or repair-maintenance of products send them to the factory to the customer relations department.
10. If products come to the factory, it doesn't mean acceptance of return and received by officers. Returns accepted, with the approval of the examination will be only after the relevant department managers.
11. Consult to General Directorate of Consumer and Competition Protection of the Ministry Industry and Commerce of Turkey about the issues may arise with warranty certificate.

EXCLUSIONS OF WARRANTY (USAGE DEFECTS)

1. Malfunctions occurring after the expiration of the statutory warranty,
2. The faults caused by improper use of the product by the user, (improper using to the instruction manual),
3. Any relevant malfunctions caused by other equipment in use,
4. Changes and damages not caused by the product manufacturer; for example, the case of the opening of the product by not authorized workshops,
5. All failures depend on the system (electricity, air, etc),
6. Failures depend on the intervention of unauthorized service,
7. Products with damaged or destroyed warranty label,
8. In case of damage to outer surface of the product,
9. The faults in the caused by falling, hit, etc,
10. Faults occurred on dusty, damp, extreme heat or cold environments,
11. Faults caused by natural disasters such as flood, fire, earthquake, lightning, etc,
12. Faults caused by electrostatic discharge (ESD) damage.

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WARRANTY CERTIFICATE

Manufacturer : SMS SANAYİ MALZEMELERİ ÜRETİM VE SATIŞI A.Ş.

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Plant: İMES OSB. 5. Cadde No: 6 Çerkeşli OSB Mah. Dilovası Kocaeli TURKEY
Tel: +90 262 290 20 20 Fax: +90 262 290 20 21

Product : SWITCH BOX

Trade Mark : TORK

Model : .....

Serial Number : .....

Delivery Place & Date : .....

Warranty Period : 2 Years

Max. Repair Time : 20 working days

Seller / Distributor : .....

Address : .....
.....
.....
.....

Manufacturer Representative
Name / Surname: Emre UZUN
Title: Quality Manager
Date: 23.12.2013
Signature:

Seller / Distrubutor Representative
Name / Surname:
Title:
Date:
Signature:

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YENİKÖY 212 217 6585 / GA.KK.TR 08.2013

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Pnömatik Piston Vana
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Pnömatik Aktüatörlü Vana
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Basınç Ölçü Kontrol
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